NASA Glenn Research Center
AEROSPACE Frontiers
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Icing research aircraft comes to Glenn

Glenn news release

The delivery to Glenn of an S–3 Viking, a former Navy aircraft, provides a big boost to NASA's Aviation Safety and Security Program (AvSSP) and the future of its icing flight research capabilities. On March 26, George Finelli, AvSSP manager, visited Glenn to help officially welcome the aircraft.

"We're excited to take delivery of the S–3 from the Navy," said Tom Bond, chief of Glenn's Icing Research Branch. "The increased power, speed, and range of this aircraft will provide new opportunities for our researchers to explore large-scale icing weather movement, high-speed icing physics, and database development for improved validation of icing simulation models."

Aircraft icing research at Glenn has been based on the use of two major facilities, the Icing Research Tunnel and a DeHavilland Twin Otter, the workhorse for Glenn's in-flight icing research for the past 22 years. These facilities, along with computational tools,

Continued on page 2

C-2004-26 Photo by Quentin Schwinn

George Finelli, NASA's AvSSP manager, came to celebrate delivery of the S–3 and talked about the long heritage and value of icing research to the aviation community.

Join me on the journey

In my inaugural talk to employees, I committed to opening the doors of our Center to the local community. *Journey to Tomorrow,* our new festival planned for June, will be an excellent opportunity for us to showcase this great research laboratory and its people by reaching out to those who may not know us and strengthening relationships with those who do.

Dr. Earls

During this 4-day event, we will demonstrate our commitment to technical excellence, our unparalleled expertise in innovative technology, our dedication to the NASA mission, and our community spirit.

As this Center's most valuable resource—its employees—you can play a key role in the success of this event.

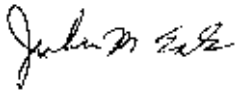
- Grab your baseball gloves, family, and friends and come out to Jacobs Field for NASA Day with the Indians on June 10.

- Volunteer to help with our June 11 Technology Showcase to promote opportunities for partnership and collaboration with the business and academic communities.

- Sign up to help with the June 12 and 13 Open House, and don't forget to invite your family, friends, and neighbors.

Journey to Tomorrow is a fun and exciting way to continue our efforts to engage, educate, and inspire the public. Please join me on the journey!

More details on page 7



Inside

NASA flies scramjets

Headquarters news release

NASA's second X-43A hypersonic research aircraft flew successfully March 27, reaching a test speed of Mach 7 (seven times the speed of sound), or approximately 5,000 mph. That was faster than any known aircraft powered by an air-breathing engine has ever flown.

High-fidelity flight data was obtained throughout the vehicle's boost, stage separation, and descent to splash down. The initial data review, conducted on March 31, confirmed that scramjets work, but according to Griff Corpening, chief engineer at Dryden, there were a couple of areas that differed from what was seen in the wind tunnels, thus reinforcing the need for flight testing.

Significant aviation milestones that occurred during this combined effort by Langley, Dryden and industry partners included the first controlled accelerating flight at Mach 7 under scramjet power; the first air-breathing scramjet-powered free flight; and the first successful stage separation at high dynamic pressure of two nonaxisymmetric vehicles.

The March 27 flight from Dryden began with NASA's B-52B launch aircraft carrying the X-43A to the test range over the Pacific Ocean off the California coast. A modified Pegasus rocket boosted the X-43A to its test altitude of about 95,000 feet. It separated from the booster and flew freely under its own power. The vehicle landed in the Pacific Ocean at the end of the test. Planning is underway for the next flight this fall at Mach 10, approximately 7,500 mph. ◆

Photo courtesy of NASA Dryden

Campbell retires

Donald Campbell, who served as NASA Glenn's director from January 1994 to October 2003, retired from the Agency on April 4. He most recently headed NASA's Special Projects Office for Nuclear Power Systems. Plans are being made for his retirement dinner.

Campbell

New ISS crew reports for duty

Expedition 9 Commander Gennady Padalka and NASA ISS Science Officer Mike Fincke began their tour of duty on the International Space Station (ISS) April 29 when Michael Foale, Expedition 8 commander, and cosmonaut Alexander Kaleri, flight engineer, returned to Earth. They were accompanied by European Space Agency (ESA) Astronaut Andre Kuipers, who arrived with Ex-9 under an agreement between ESA and the Federal Space Agency of Russian.

Padalka and Fincke will spend 6 months maintaining Station operations and continuing research. The Ex-9 mission is commemorated in the patch, pictured below. The Soyuz rocket and letter "X" combine into the Roman numeral IX. The "X" evokes Exploration, which is at the core of the indivisible partnership of the two space pioneering nations. Research aboard ISS will lead to human exploration of the Moon and Mars. In memory of the astronauts and cosmonauts who gave their lives, stars form the leading edge of the wings of the eagle spirit that embodies Human Space Flight. The astronaut symbol is flanked by the Ex-9 crew names leaning to-gether, with a "9" stylized as the plume of their rocket. ◆

Icing research plane unveiled

Continued from page 1

experimental methods, and the highly specialized instrumentation employed by the Icing Branch, have led to the successful advancement of safety-based research supported in Glenn's Aircraft Icing Project. NASA's new aviation safety objectives, however, require increased capability in range, speed, payload, and onboard power beyond the Twin Otter's capabilities.

With eight times the range of Glenn's current icing research aircraft, the S-3 will enable research flights from Cleveland to Wyoming and back in a single day. It is representative of modern research aircraft to be used to develop in-flight characterization of natural icing phenomena. Glenn will need to modify the plane to incorporate diagnostic tools and allow in-flight icing weather forecasting. The aircraft is scheduled to begin performing research flights in November 2006.

"This icing research program has proved over and over again the value of doing the ground-based research, working in the wind tunnel, but most important, proving it in flight. You've got to fly it—that's what this business is all about," said Glenn Deputy Director Rich Christiansen. It's going to have a long, healthy, and productive future."

The NASA AvSSP is a partnership with the Federal Aviation Administration, aircraft manufacturers, commercial airlines, and the Department of Homeland Security to reduce the fatal aircraft accident rate and protect air travelers and the public from security threats. ◆

Return to Flight GLENN RESEARCH CENTER

Graphic by Jim Lucic

8x6 SWT produces vital data for Return to Flight

BY DOREEN ZUDELL

This is the third in a series of articles highlighting Glenn's significant role in the space shuttle investigation and Return to Flight efforts.

Recent testing in Glenn's 8- by 6-Foot Supersonic Wind Tunnel (8x6 SWT) for the Agency's Return to Flight (RTF) activity is helping lay the groundwork for potential improvements on the space shuttle.

The tests centered on protuberance air load (PAL) ramps that are currently used on the space shuttle's external tank. The ramps are intended to reduce aerodynamic loads on the liquid hydrogen (LH_2) and liquid oxygen (LO_2) portions of the cable tray during launch.

"Because the PAL ramps are made of foam, with the potential to break off, members of the Space Shuttle External Tank Return to Flight team are looking for potential alternatives for removal of foam ramp materials," explained Scott Williamson, Research Testing Division.

The RTF team contacted NASA Glenn last June to request that it rerun a 1983 test to verify loads on the LH_2 portion of the cable tray. Utilizing designs from the 1983 test and the original splitter plate (platform) for mounting hardware, the Glenn team quickly got to work fabricating the test unit. In just 2 months, they designed, fabricated, installed, verified, and completed testing of a 1/4-scale section of the LH_2 cable tray.

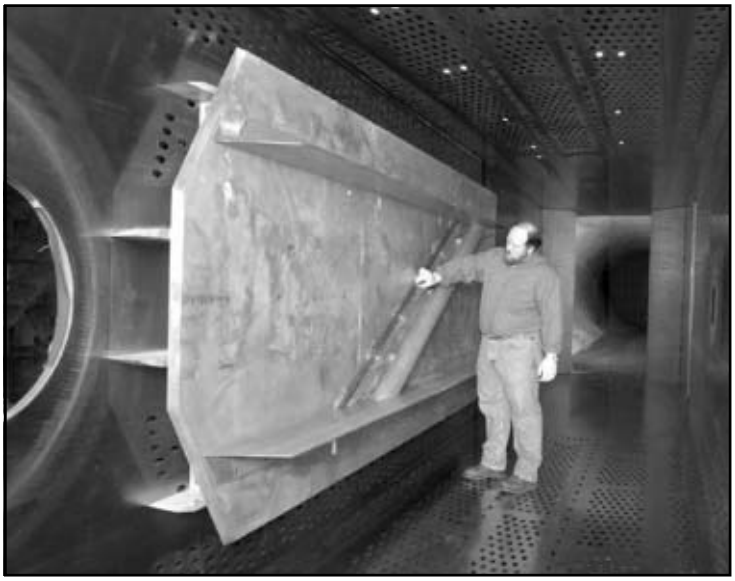
In September, the RTF team inquired about a second test to focus on the LO_2 cable tray section. Because no tests in the 8x6 SWT had been performed previously on this area, the project required more intensive design than the first test. Glenn again stepped up to the challenge by completing the 1/2-scale model testing process in less than 5 months.

"The Glenn team performed in an extraordinary fashion," said Denny Kross, manager of the Space Shuttle External Tank Return to Flight Team, Kennedy. "Due to their tremendous dedication, technical excellence, and 'can-do' attitude, Glenn provided very high quality products that directly support the NASA space shuttle Return to Flight effort."

In April, Glenn performed additional testing on the LO_2 cable tray section. The results from all these tests, coupled with other test results, will be used to analyze whether the ramps can be eliminated, reshaped, or reduced in size. All of the data will be used to prepare for several full-scale tests, and help certify a change to the shuttle external tank cable tray design.

Williamson explained that in addition to the team in the 8x6 SWT who performed the testing and those who supported it through in-house design and fabrication capabilities, many others were affected by this RTF effort.

"Projects originally scheduled for tunnel use had to be delayed so that we could have access to the facility. We tried to work around their schedules but it was not always possible," Williamson said. "However, our people showed true 'One NASA' spirit through their patience and understanding. The entire Center can take pride in this." ◆



Scott Williamson inspects the hardware installed in the 8x6 SWT in preparation for the space shuttle Return to Flight testing.

HQ awards procurement efforts

The NASA Headquarters Office of Procurement awarded the Glenn members of the Custodial Services Source Evaluation Board (SEB) the Acquisition Improvement Award for their work in procuring the follow-on contract. The procurement was accomplished in 123 days from solicitation issuance to award date and required the efforts of only a group of five individuals. The board members awarded are L. Marc Hudson, Marisa Pischel, Richard Flaisig, David Vance, members of the Procurement Office, and Patricia Fordosi, Facilities Division. In addition, Robert Lisy, Procurement Division, was recognized for his excellent participation in the Goddard SEB for the Space Mission Communications and Data Services procurement. ◆

View us online at http://AeroSpaceFrontiers.grc.nasa.gov

Attention former Centaur workers

Come celebrate Centaur!

Eighty-nine members of the Lewis (Glenn) Centaur team posed for this photo in 1979 while celebrating the 50th anniversary of the Atlas-Centaur flight.

If you are a current or former civil servant or support service contractor employee who worked on the Centaur Program, either in the Launch Vehicles Division or one of the facilities that developed and tested Centaur, you (and your spouse) are invited to a special ceremony celebrating the release of a history publication on Centaur, June 9, from 1:30 to 3:30 p.m. in the Visitor Center.

The book, titled *Taming Liquid Hydrogen: The Centaur Upper Stage Rocket 1958–2002*, focuses on the technical and political hurdles that Centaur faced over the three decades that it was managed by NASA Lewis (Glenn). Locally authored by Dr. Virginia Dawson and Dr. Mark Bowles, this new book in the NASA History Series has won the 2004 American Institute of Aeronautics and Astronautics Historic Manuscript Award. The award will be presented at the ceremony and the authors will be available to autograph the book.

Centaur's high-energy hydrogen fuel transformed the Atlas and Titan missiles into launch vehicles capable of sending space probes to the outer reaches of the solar system. The vehicle of choice for a series of spectacular planetary missions in the 1970s, Centaur was nearly phased out in the early 1980s, when space policy dictated that all missions be carried out by the reusable space shuttle. Today, Centaur represents the successful transfer of technology from the government to the private sector; it still flies as the upper stage for the redesigned Atlas family of commercial rockets.

Reservations for this event must be made by May 28, for planning purposes and clearance to the Center. To reserve a seat and a copy of the book, call 216–433–2782 or e-mail Lynne.M. Wiersma@nasa.gov or Monica. M. Palivoda@nasa.gov ◆

Lebacqz speaks on role of aeronautics

BY S. JENISE VERIS

On April 7, Dr. J. Victor Lebacqz, associate administrator for NASA's Office of Aeronautics (Code R), conducted a town hall meeting at Glenn to share his values and management style for bringing the skills and resources of all four Code R centers together to achieve the Agency's vision and goals. This event concluded Lebacqz's scheduled visits to each Code R center.

C-2004-515 Photo by Marvin Smith

Lebacqz discussed recent events that have changed the role of aeronautics in the Agency. He emphasized the need to bolster Code R's credibility through participation in several initiatives with government, industry, and academia partners. The initiatives include the Joint Planning and Development Office (JPDO), a prestigious group developing a model for the Nation's new air transportation system; the Industry Technology Leadership Team, an industry-led team to inform NASA of industry needs; and the Dean's Council, an academic partnership with 15 engineering schools across the country.

Lebacqz briefly identified his top six priorities for addressing industry and educational needs and the recommendations of various commissions and organizations to regain U.S. prominence in aeronautics: (1) Ensure NASA's contribution to an improved air transportation system through participation in the JPDO; (2) Maintain an emphasis on public goods research (noise and emissions, safety and security, i.e., all things easy to promote about NASA's work); (3) Enhance and accelerate unmanned aerial vehicle research; (4) Assess and leverage possibilities for supersonics; (5) Increase the design and risk reduction activities for planetary aircraft; and (6) Determine the future of hypersonic research.

Summarizing the role of aeronautics, Lebacqz said, "The Wright Brothers took us into the skies of this planet 100 years ago. Our job is to fully utilize and protect our sky and to enable humankind to explore other skies." ◆

Ask the Director

Q: On the *Ask the Director* Web site, you seem to have a lot of questions where responses have not yet been posted. If you say you will post answers within 5 to 7 workdays, and you don't do that, you lose credibility. I suggest you consider a more honest response time—perhaps 30 days?

A. I acknowledge that a number of responses have not been posted within the time period I originally communicated to Center employees (5 to 7 workdays). While that timeframe remains my goal, there is a twofold reason why delays have occurred. First, the complexity of many of the questions requires that I research information from across the Center prior to formulating a response. Second, at times, my travel obligations impact my ability to respond and/or review supporting information from the appropriate office/directorate. Additionally, due to the excellent employee response and subjects covered on the *Ask the Director* page, I am implementing several internal process changes that will, in most cases, result in expedited responses. Overall, I believe employees are more inclined to want an accurate response rather than a quick response. I appreciate your patience and understanding and fully expect response times to improve.

Q. There is a very real perception among employees in 7000 that Human Resources acts as more of an impediment on careers than a resource. I realize that your day-to-day responsibilities don't put you in touch with many of the employees "in the trenches," so to speak. Nearly everyone I know has had a negative experience with our Human Resources department, be it promotions, or bench audits that take so long that many of us think that a certain level of ineptitude must exist. I personally have received Notification of Personnel Action forms that come 6 months late. Employee morale plays a crucial role in the Center's future. A Human Resources department that does not build confidence and trust within the workforce is a serious liability. What recourse do employees that feel "stonewalled" have?

A. I acknowledge that your perception is shared by numerous employees throughout the Center. I am asking the Chief of the Office of Human Resources and Workforce Planning (OHRWP) to review the issues raised in your question and prepare a plan to address the class of concerns you defined. I agree with you that morale is extremely important. Often an explanation of processes will serve to foster understanding and appreciation for the steps required to conduct audits, reviews, etc. In addition, establishing goals and timetables (metrics) for evaluating response times should help facilitate more timely feedback. The employees of the OHRWP are dedicated to improving customer service. If you desire a specific response to an individual concern, please ask your line management to take the lead to work with the appropriate specialist within the OHRWP. Thank you for raising the issue.

The Ask the Director *Web site can be found under Corporate Focus on the GRC internal homepage (WING).* ◆

News Notes

LESA MEETING: LESA/IFPTE, Local 28, will hold its next monthly membership meeting on Wednesday, May 12, at noon in the Employee Center, .

WOMEN RETIREE LUNCHEON: The next luncheon for Glenn (Lewis) female retirees will be noon, Thursday, May 20, at . For reservations, call Phyllis Mongulo at 440–331–5966 by Monday, May 17.

SATURDAY AT THE VC: Improve your own understanding or nurture your child's interest in the astronaut corps during the Saturday, May 22 program, "So You Want to Be An Astronaut" at the . For more information, call the VC at 216–433–2000.

ASIAN-PACIFIC ISLANDER PROGRAM: Glenn will celebrate the heritage of Asian-Pacific Islander Americans under the theme "Freedom for All. A Nation We Call Our Own" on May 27, from 10 a.m. to noon in the Ad. Bldg. Auditorium. The program will feature a Glenn keynote speaker, cultural performances, and cuisine sampling. Your attendance at the event is highly encouraged.

PROJECT ORION TALK: George Dyson, author of the book, *Project Orion*, will give a talk on May 27 in the DEB Auditorium at 2 p.m. Sponsored by Glenn's Engineering Training Committee, the talk will focus on Project Orion, an attempt to build a nuclear bomb-powered rocket in 1957. Dyson's father, Freeman Dyson, was a physicist on the Project Orion team.

PHOTONICS CONFERENCE: Former astronaut Story Musgrave, who once repaired the Hubble Space Telescope, will be one of the featured speakers at the Great Lakes Photonics Symposium from June 7 to 11 at Cleveland's Renaissance Hotel downtown and the Great Lakes Science Center. Other speakers include Glenn Center Director Dr. Julian Earls, Batelle President and CEO Carl Kohrt, New York University at Buffalo Professor Paras Prasad, and University of Toronto President Sajeev John. The conference spotlights optics and photonics technology in the Great Lakes area. Sessions will focus on 10 topics, including liquid crystal technology, biophotonics, automotive applications, quantum optics and advanced spectroscopy, enabling technologies, aerospace applications, nanotechnology and MEMS, and automatic recognition and processing technology applications. To register visit www.usasymposium.com/glps/.

EARTH SCIENCE CONFERENCE: NASA's Earth Science Technology Office is presenting the fourth annual Earth Science Technology Conference in Palo Alto, CA, June 22 to 24. The conference will showcase a wide array of technology research related to NASA Earth science

Continued on page 11

An "out-of-the box" experience

BY S. JENISE VERIS

Over 1500 high school students representing 60 teams from six states came ready to rock and roll in Cleveland during the third annual Buckeye Regional FIRST (For Inspiration and Recognition of Science and Technology) robotics competition.

The action-packed event, held March 25 to 27 at the Cleveland State University Convocation Center, was the culmination of a 6-week race to build the strongest and most agile robot from a kit of identical parts. Yet, for the majority of competitors, the most memorable aspects of this "out-of-the-box" experience were the relationships formed and the career possibilities discovered.

"There are no losers in this FIRST robotics competition," said Carol Galica (IDI), Glenn's FIRST program manager, Educational Programs Office (EPO). "There's been a wonderful transformation that occurs with this competition, which brings young people and professionals from sponsoring corporations, colleges, and government agencies together to actually communicate and solve an engineering problem."

Although the level of support varies among the individual teams, a notable swell of support for the FIRST program is growing throughout Northeast Ohio and the entire state since bringing the (Buckeye) regional to the area March 2002.

- The number of teams statewide participating grew from 12 to 36; NASA Glenn sponsorship grew from 5 to 31.
- Max S. Hayes Vocational School (Team 541), last year's Buckeye Regional winner, extended professional courtesy to 10 other local high schools by sharing their shop and producing replicas of their winning robot base and drive system. This enabled the veteran teams to mentor the six rookie teams on a daily basis, including the 2004 Buckeye Rookie Team of the Year, North Royalton (1278), which advanced to the national competition in Atlanta.
- A FIRST LEGO League Robotics Regional was created and hosted by Max S. Hayes; 33 middle schools (including 10 Glenn-sponsored teams) from Northeast Ohio competed.
- Cuyahoga Community College (CCC) now offers courses such as Introduction to Robotics and Introduction to Manufacturing where students working on the FIRST program can also earn college credits towards an electrical engineering certificate.
- The Cleveland TechWorks consortium was established to help teams find funding, training, mentors, and other resources necessary to develop successful FIRST teams in the area. Consortium membership is open to any interested school or business and currently includes Parker Hannifin, Battelle Memorial Institute, CCC, OAI, space Institute, and the City of Cleveland Department of Workforce Enhancement. The consortium is also working to find businesses that are willing to provide summer internship opportunities related to robotics for FIRST students.

Through NASA's Robotics Education Project, 20 of the teams in the Buckeye Regional were awarded sponsorships to enable them to participate in this year's competition. An additional 11 teams were awarded registration scholarships from Glenn's EPO. NASA sponsorship has grown exponentially as FIRST is becoming part of a systemic change in educational approach in communities across the country.

As External Programs Director John Hairston said, "From the NASA Glenn-East Technical High Team (120) that first entered FIRST competition in 1995, to the hundreds of other NASA teams that have followed, NASA sponsorship is an investment in the development of an educated robotics technology workforce capable of meeting the myriad of challenges of future missions to explore our solar system in the 21st century."

Veteran teams mentored rookies at Max Hayes with help of Glenn's Mark Poljak (back, center).

Glenn volunteer referees tally points and keep the frenzy of battling robots under control.

Deputy Director Christiansen was an honorary member of Youth Technology Academy team.

North Royalton, "Rookie Team of the Year."

Editor's note: For a complete list of competing teams and award winners of the 2004 Buckeye Regional, visit www.firstbuckey.org.

Glenn to host *Journey to Tomorrow*

BY DOREEN ZUDELL

An exciting mission is on the horizon, where business, academia, and the general public will be the explorers.

During *Journey to Tomorrow*, June 10 through 13, the Center will host three activities aimed at showcasing its unique capabilities and strengthening relationships with the public.

The fun begins on June 10 with NASA Day at Jacobs Field. NASA Administrator Sean O'Keefe will throw the first pitch! During the game, NASA will be recognized with video programming that highlights the Center's uniqueness and value to the community. Discount tickets will be available at the Main Cafeteria on May 14 only. After that date, ticket order forms will be available through the Exchange Store and online. Watch for details on *Today@Glenn*.

On June 11, the excitement continues with a Technology Showcase, where participants can explore the advantages of partnering with Glenn. A variety of communication avenues—presentations, speeches, exhibits, breakout sessions, handouts, and one-on-one discussions with Glenn management and researchers—will show business, industry, and academia attendees how to access Glenn technology and identify contracting opportunities. Most important, the event is designed to increase interactions between offsite colleagues and Glenn employees.

Zero Gravity Facility during the 1998 open house.

"The Technology Showcase will provide practical access to Glenn—including information on new programmatic directions, how to access new technologies and facilities, and upcoming procurement opportunities," said Kathy Needham, Technology Transfer and Partnership Office. "It's a chance for Glenn to show off our expertise and provide business and academia real-time advice on how to work with us."

On June 12 and 13, Glenn will put out the welcome mat to the general public. Through a variety of tours, exhibits, and live programs, the open house will show visitors how the Center is working to fulfill NASA's vision and mission. While the event will welcome people of all ages, special emphasis will be placed on inspiring the next generation of explorers.

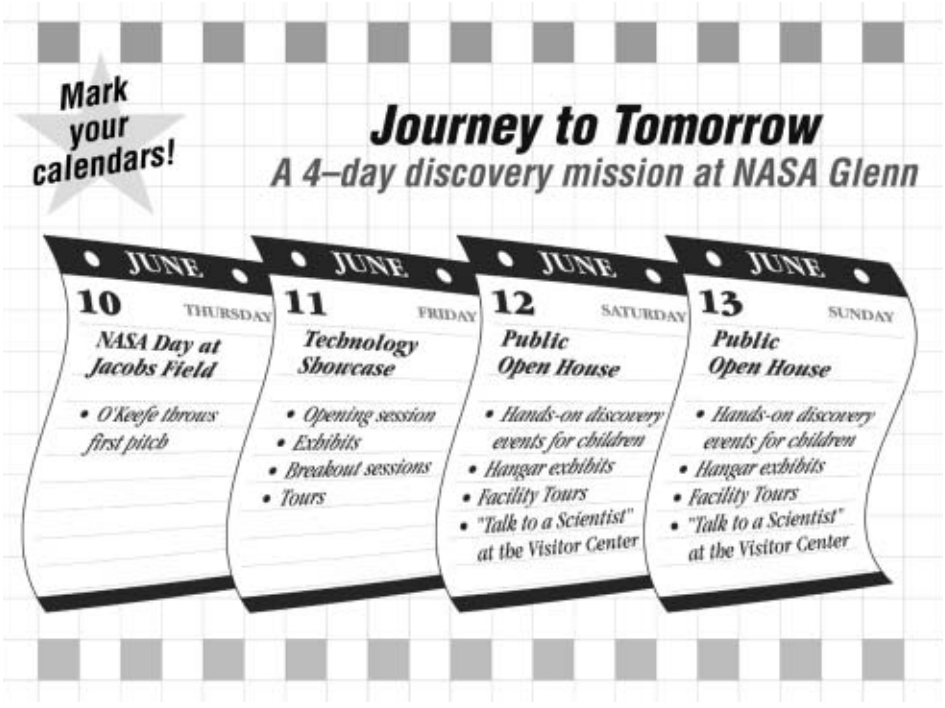
"The open house will emphasize families and hands-on educational activities," explained Jo Ann Charleston, chief of the Educational Programs Office. "Our Interactive Zone will allow visitors to use cutting-edge technology to virtually immerse themselves in the footsteps of the Wright Brothers, aeronautics engineers, and astronauts."

An event of this magnitude cannot happen without the support of Glenn employees and retirees. People are needed to serve as speakers, exhibit and facility staffers, hospitality aides, and supporters for other logistical functions.

"This is going to be an incredible 4 days," said *Journey to Tomorrow* Project Manager David DeFelice. "At the end of the event, people inside and outside of the gates are going to say, 'Wow!' "

For more information on how you can support the Journey to Tomorrow events, see journey.grc.nasa.gov. ◆

Graphic by Jim Lucic



FEB awards recognize outstanding service to job and community

Eleven Glenn employees were honored with the Federal Executive Board's Wings of Excellence award on May 3. The award recognizes employees whose outstanding performances, either on the job or off the job, have served as an inspiration to others and/or brought credit to the Federal service. Awardees may be recognized for on-the-job performance, community service, or both.

Timothy Bencic, Optical Instrumentation Technology Branch, is recognized for his work in luminescent coatings for pressure and temperature measurement in aerospace propulsion systems and for mentoring engineering students in Glenn's Summer Intern and Graduate Student Research programs as well as students in two local high schools.

Amy Bower, Glenn Safety Office, Plum Brook Station, has implemented safety, health, and environmental requirements at Plum Brook Station, including safety oversight to the Reactor Decommissioning Project. During her tenure, there have been no civil servant personnel lost time incidents.

Dennis Culley, Controls and Dynamics Branch, has provided technical leadership in development of control hardware and software for complex systems. He helped organize a "Government Awareness Day" where Cleveland area Federal government agencies provided information to community members. Culley led a project to plant endangered American chestnut trees at Glenn and at Cleveland Metro Parks.

Karen Edwards, Procurement Division, volunteers in her local school system through the Band Boosters, the school endowment fund, and the Young Astronauts Program at Glenn. With interest from an endowment fund she established in memory of her daughter, Edwards provides grants to the school for enrichment programs for children with special needs. At work, Edwards believes in empowering people to make a difference in the way they conduct business.

Gwendolyn Flowers, Resources Analysis and Management Office, serves as president of the Board of Trustees for the Center's day care facility. She also mentors high school and college students who work at the Center, and is a member of the Speakers Bureau. In addition to her normally assigned duties, Flowers has served on Center and Agency teams.

Jill Noble, Information Systems Division, is an active member of the American Council of the Blind. She does public speaking for the Cleveland Sight Center and mentors for their Braille literacy program. She was instrumental in establishing an annual Dog-a-Thon event to raise funds, which are used to purchase adaptive equipment for children who are blind or visually impaired in Northeast Ohio. Noble is also a member of the Speakers Bureau.

Bryan Palaszewski, Combustion Branch, provides over 50 lectures annually to public groups, from preschool to retirees. He works closely with Glenn's Speakers Bureau and Digital Learning Network, programs that allow NASA engineers and scientists to provide information to the general public. Palaszewski develops and uses a variety of outreach tools in his presentations.

Dr. Robert Romanofsky, Antenna, Microwave, and Optical Systems Branch, is internationally recognized for his work as a communications research engineer and technical leader with notable contributions in the area of ferroelectric reflect-array antennas. His inventions have sparked small business initiatives for commercialization. Romanofsky also mentors student interns from universities across the state of Ohio and as a professor at Cleveland State University.

Duane Schaft, Financial Management Division, worked as project manager to implement a Web-based time and attendance system at Glenn that eliminated the need for timekeepers. He is active in disability awareness both at Glenn and outside organizations, inspiring others through his life experiences as a person with a physical disability. He is active in


Bencic


Bower


Culley


Edwards


Flowers


Noble


Palaszewski


Dr. Romanofsky

Continued on page 9

FEB's Wings of Excellence awards

Continued from page 8

the Berea Jaycees and has volunteered throughout the years in other social, fund-raising, and community service projects.

William Sikora, Office of Chief Council, was legal advisor to the Columbia Accident Investigation Board. Deployed with the board over a period of 7 months, Sikora helped establish the board's management processes and developed operating procedures for conducting public hearings, releasing information to the pubic, protecting priviledged witness statements, interacting with Congress, and archiving the board's records.

Paivi Tripp, Procurement Division, supports the Center meeting its research and institutional procurement needs and is a key implementer of the new integrated financial and purchase management systems, authorizing access and insuring qualified system users. She is also a member of the Procurement e-Business Team and a leader in the Agency procurement efforts to consolidate certain business transactional functions in one location. ◆

Schaft

Sikora

Tripp

Crocheting for preemies

Outreach nurtures the next generation

BY DOREEN ZUDELL

NASA's commitment to nurture the next generation of explorers is being embraced at the earliest level by a group of employees who crochet clothing for premature infants.

"Babies who are born prematurely lack the ability to maintain stable body temperatures," explained Kathy Naugle, Office of Strategic Management. "Items such as hats and blankets help keep the infants warm, which better ensures their survival."

Naugle, who has been crocheting and knitting for more than 20 years, began crafting items for "preemies" about 7 years ago when she learned that a hospital in Wisconsin was in need of handmade blankets and hats. Since then, she has donated nearly 300 hats, blankets, booties, sweaters, and afghans to hospital neonatal units.

Shortly after she began crocheting for the infants, fellow employees learned of her outreach activity and asked Naugle if they could become involved. Years later, Naugle and her group—Susan Deal (IDI), Patricia McElroy, Jill Noble, and Theresa Scott—all members of the Information Systems Division—are still crafting the items. They also collect donations from others.

Left to right, Patricia McElroy, Theresa Scott, Kathy Naugle, Jill Noble, and Susan Deal donate their spare time to crocheting clothes items for premature infants.

"I didn't know how to crochet but I wanted to help the babies, so I asked Kathy if she could teach me," said Deal, who now calls crocheting her "passion."

Noble, who also had no experience crocheting before joining the group, affirmed the joy she finds in this activity. "It's a 'good' addiction," she said.

The most needed items, such as blankets, which typically measure 12 by 12 inches, and hats to fit small heads (about orange or grapefruit size for premature babies), serve not only to warm the infants but as keepsakes for the families.

Sharing this unique kind of outreach has resulted in a special friendship for participants that transcends the regular lunch-time gatherings to crochet and compare patterns. Through the years, the ladies have traveled to stores, festivals, and conferences in search of yarns worthy to wrap precious, tiny bundles—some of whom (who knows?) could turn out to be NASA's future explorers. ◆

People

Promotions

Dr. Paul Angel has been selected as the Propulsion Technology Roadmap manager in the Special Projects Office. Angel comes to this position from the Environmental Durability Branch within the Materials Division. He brings considerable materials expertise as well as demonstrated leadership in project management and intercenter and interagency technology development activities. He has received numerous performance awards including the NASA Exceptional Achievement Honor Award.

Dr. Angel

Goin

Michael Goin, who previously worked in the Organizational Development and Training Office, has been selected to be executive director of the Cleveland Federal Executive Board (FEB). Goin provides a full range of staff services to the chairperson and members of the board. The FEB functions as a focal point for coordinating and sharing available information and expertise among Federal agencies through activities of its committees, and serves as a major point of contact between the private sector and government in areas of local and Federal concern. Goin replaces Judy Montfort, who retired from this position earlier this year.

Manthey

González-Sanabria

Mark Manthey has been selected chief of the Space Systems and Grants Branch in the Procurement Division. Manthey's extensive experience in procurement, both in research and development and services and construction, prepare him well for this new venture. Manthey served a 1-year term at NASA Headquarters and Office of Management and Budget's Office of Federal Procurement Policy for the Professional Development Program; completed the Executive Potential Program with a detail as an acting High Speed Research subelement program manager; and demonstrated leadership in many Source Evaluation Board-level procurements and other activities.

Awards

Olga González-Sanabria, director of the Engineering and Technical Services, has received the Women of Achievement award from the Young Women's Christian Association (YWCA). Established in 1977, this award is one of the most prestigious honors for women in Cleveland. It recognizes women who demonstrate outstanding leadership qualities, as well as excellence, accomplishments, and commitment in their careers and communities. Women chosen to receive this award are role models and mentors. They have played significant roles in helping other women achieve their goals. The award recipients must also exemplify the YWCA mission of empowering women and eliminating racism.

In Appreciation

Thank you from the bottom of my heart to all my friends at NASA, especially those in building 142 and also across the Lab. You have stood by me since my illness with your prayers, beautiful cards, phone calls, visits, food, and donated leave. Please know how much you all mean to me. I will never forget you. I am so blessed to have worked at NASA.

—Mildred Bergman

I would like to thank anyone or everyone who donated leave to me and all the cards and calls I received during my recent illness. It was very much appreciated.

—Kathy Webb

In Memory

Milton Beheim, 73, who was chief engineer prior to his retirement in 1986, recently died.

Edith (Long) Donahue, 82, who retired as a secretary in 1985 after 22 years of NASA service recently died.

William Fecych, 80, who retired in 1973 with 17 years of Federal service, recently died. He worked as a supervisory nuclear engineer and helped design and bring online the 60-megawatt research and test reactor at Plum Brook Station.

Thelma Hunt, 78, who retired in 1988 after 11 years of NASA service, recently died. Hunt was a secretary.

Milton "Pete" Lauver, 83, who retired in 1982 after 24 years of service, recently died. Lauver was a chemist who performed research in the area of combustion fundamentals and space power as a member of the Microgravity Division.

John Misencik, 75, who retired in 1982 after 23 years of NASA service, recently died. Misencik was head metallurgist in the 1960s and 1970s.

Exchange Corner

• Discount movie tickets and Cedar Point and Geauga Lake amusement park tickets are available in the Exchange Store.

• A Ribs and Chicken BBQ Cook Out is set for May 20 and will be served on the Main Cafeteria patio between 11 a.m. and 2 p.m.

• Don't forget the Main Cafeteria for your catering needs. The Catering Department can help you plan your next party. For more information, call Crystal Wodziszi, 216–433–5534.

• The Main and DEB cafeterias will feature 8-inch individual Donatos pizzas with toppings loaded EDGE TO EDGE for $4.99 each. Pizzas will be on sale on Wednesdays from 11 a.m. to 1 p.m.

News Notes

Continued from page 5

efforts. Attendees will encounter new developments in information systems, computing, instruments, and component technologies, and learn about the vision and future needs for Earth science technology. To register, examine abstracts and presenters, and preview the venue and schedule, visit http://esto.nasa.gov/conferences/estc2004/.

HBCU/OMU CONFERENCE: The 11th Historically Black Colleges and Universities (HBCUs) and Other Minority Universities (OMUs) Research Conference will be held July 14 and 15 at the . The conference will highlight the collaboration of Glenn researchers with HBCU/OMU students in the areas of propulsion, microgravity, materials, photovoltaics, batteries, sensors, and more. Oral and poster presentations will be available to provide progress reports of Glenn-sponsored research. NASA Headquarter's quarterly Small Disadvantaged Businesses (SDB) Forum and Glenn's Job Fair will be held concurrently at OAI. For more information, call Dr. Sunil Dutta, 216–433–8844. Contact Carl Silski, 216–433– 2786, regarding the SDB Forum, and Judy Drabik, 216–433–2487, regarding Glenn's Job Fair.

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DEADLINES: News items and brief announcements for publication in the June issue must be received by noon, May 13. The deadline for the July issue is noon June 11. Submit contributions to the editor via e-mail, doreen.zudell@grc.nasa.gov, fax 216–433–8143, phone 216–433–5317 or 216–433–2888, or MS 3–11. Ideas for news stories are welcome but will be published as space allows. View us online at http://AeroSpaceFrontiers.grc.nasa.gov.

WINNER 2003 APEX® AWARDS FOR PUBLICATION EXCELLENCE

Behind the Badge

a closer look at our colleagues

Barbara Cotton

Cotton, left, autographing a copy of one of her books.

Job Assignment: I'm an information technology specialist in the Systems Analysis Branch.

Time at NASA: I've worked for Analex for 5 years and for NASA 15 years.

Describe your family: Out of eight children, I am the third eldest. My family is very close knit. We all live within driving distance of each other and my parents host family dinners at least twice a month. I am married to David Cotton, who works in Glenn's Manufacturing Engineering Division. We've been married 6 years and have two children, Nicoh 20, and Robert, 12. David had to get used to my family calling each other 6:30 a.m. everyday. We are team players, picking each other up when we're down.

Social/professional activities at Glenn: In the past, I enjoyed membership in the Glenn Women's Advisory Group Committee and the National Technical Association, but now I limit my participation to Glenn's Speakers Bureau.

Hobbies/interests outside of NASA: I have mentored more than 100 minority youth and women to choose careers in science and technology, served as chaperone for field trips to colleges and museums, and given presentations and motivational talks to children of all ages. I also love to write. So far, I've written and published two nonfiction books: one about my dad, *Eugene—A Biography of a Sad Lonely Boy Growing Up in the Country (Cuba, AL)* and the other, *Two Paths to Reach Your Goals: You Choose*. I have six manuscripts that are ready for print. I am also committed to my spiritual responsibilities. As one of Jehovah's Witnesses, I study the Bible and share Bible truths on a regular basis.

Food temptations: Chocolate, chocolate, and more chocolate. Also, I love soul food (greens, sweet potatoes, chicken dressing, etc.).

Philosophy to live by: Treat people the way you want to be treated. Another philosophy I live by is to set positive goals in life. Once you reach a goal, it is time to set another positive goal. In my household, you have to have a positive attitude within yourself and your family. Do not allow outside negativity to take root in your home. Leave it at the door.

Person you most admire: My parents, Eugene and Mamie Wilson, set the best example for me to live by. Although they both were strict, I learned at an early age that I am responsible for my own actions—take care of business first and then play. They instilled in me the importance of family and marriage and taught me that there are no obstacles that I cannot face. They have always been there for me.

Favorite Web site: http://www.barbarajwilson.com. This is my Web site.

Asian-Pacific Islander Heritage Month

Glenn employees of Asian-Pacific Islander heritage were asked, "What do you do and who was your source of inspiration?" This is the third in an *AeroSpace Frontiers* series of heritage and awareness month features.

Dr. Bhasin

Do

Konno

Vannuyen

Dr. Kul Bhasin, manager, Space Communications Project. I stimulate new concepts of communications and networking technologies with the help of very talented teams across the country. My strongest inspiration came from reading biographies of early American inventors as a high school student in India: Ford, the Wright brothers, Edison, George Washington Carver, and Alexander Graham Bell. I marveled at their humble beginnings and the overwhelming influences of their single-mindedness on science and society. Having no science role models in my family or community, these biographies came to life for me and presented values I have adopted in pursuing my scientific career.

Hanh Do, project manager, Biological and Physical Science Division. I'm the lead for three solid fuel combustion experiments, the Flow Enclosure Accommodating Novel Investigations in Combustion of Solids, which will be operated in the Combustion Integrated Rack onboard the International Space Station. The encouragement of my management and training have motivated me to pursue a management career. However, it was my high school English teacher who inspired me. When I arrived to the U.S. from Vietnam in 1979, I could barely speak English, but with his encouragement, I was able to advance my English and writing to attend college, where I found my niche in electrical engineering.

Kevin Konno, mechanical engineer, Engineering Development Division. I'm part of a team that develops "extreme" flywheels for aerospace batteries. My strongest inspiration for entering this field came from my father, who grew up in a small fishing village in Japan. He worked his way through medical school and later moved to the U.S., the land of opportunity. He was always interested in research and usually spent free time poring over medical books and journals related to his field of pathology. His love of science really rubbed off on me. That and the astronaut G.I. Joe I got for my sixth birthday led me to where I am today!

Tom Vannuyen, mechanical engineer, Engineering Development Division. I'm involved with testing of the shuttle cable tray for Return to Flight. Some recent projects include design and analysis for the Glovebox project InSPACE, the Rocket-Based Combined-Cycle program, and the Source Diagnostic Test. My engineering skills were developed during the 12 years I spent working as a technician designing and fabricating actual hardware for research projects. The work was always interesting though sometimes very challenging. It was during that time, working with wonderful engineers, that I was inspired to advance and pursue a degree in engineering. ◆

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